

REMARKS

Claims 1-9 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 102

Claims 1 and 5-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sommer (WO 00/54531). This rejection is respectfully traversed.

Claim 1 of the present application is directed to a method of optimizing soft handover between RNCs (Radio Network Controllers), comprising:

a. according to the measurement control information provided by a corresponding SRNC of a Node B to which a UE currently belongs, measuring signals of co-frequency neighbor cells by the UE to obtain a measuring result; reporting the measuring result to said SRNC by the UE;

b. making a handover decision according to said measuring result by said SRNC, and determining whether to make a soft handover; if not, then continuing to make handover decision; if yes, then determining whether said SRNC has right to dispatch common resources of a target Node B to which said the current UE is to handover;

c. if yes, applying for required common resources to a specific functional entity that controls said common resources of said target Node B by said SRNC, and then going to Step d; if not, then initiating a soft handover between RNCs, and ending; and

d. according to status of current use of common resources of said target Node B, responding whether said common resources are available by said specific functional entity, if yes, then establishing a connection between said SRNC and said target Node B by said SRNC, and initiating a soft handover within RNC, otherwise, initiating a soft handover between RNCs.

Claim 1 of the present application relates to a soft handover method. The method is based in part on the following two conditions:

- 1) resources of a Node B are managed and controlled by the Node B itself;
- 2) the radio access network is changed from a star-shaped network to a net-shaped network.

The prior art at best discloses that a Node B can connect with only one RNC, namely the SRNC, while according to the present application, a Node B can connect with a plurality of RNCs, for example by an IP network, see, for example, page 4, Figure 4 of the present application.

Based on the above mentioned conditions, when a soft handover between RNCs takes place, the corresponding SRNC can directly apply for required common resources to a specific functional entity, which is used for controlling common resources of the target Node B and can be configured either in the target Node B or in a network server. If the required resources are available, a connection between the SRNC and the target Node B will be established by the SRNC, and the connection is a direct connection between the SRNC and the target Node B without passing the DRNC controlling the target Node B. Thus, during the soft handover procedure, the SRNC can directly communicate with the target Node B enabling data from the UE to the SRNC traverse a

shorter path and bypass the DRNC controlling the target Node B. Therefore, a soft handover between two RNCs (SRNC and DRNC) is transformed to a soft handover within the SRNC.

Sommer is directed to a method for allocating resources in mobile communication networks. Sommer at best discloses that an obligated part of the resources of a BS is provided to be controlled by a second RNC, while the remaining resources of the BS are controlled by the SRNC of the BS. The second RNC is able to allocate the obligated part of the resources of the BS to a MS without signaling negotiation with the SRNC of the BS. Sommer also at best discloses a method of soft handover based on the discloses method of resource allocation. According to the soft handover method, while a MS is entering a target cell controlled by a DRNC from a cell controlled by a SRNC, since the SRNC can directly control a part of resources of the target cell, the SRNC can directly allocate some resources of the target cell to the MS, without signaling negotiation with the DRNC. However, since a BS is connected with only one RNC, according to specification and figures Sommer, see Sommer Figures 8 and 9, during a soft handover procedure, after the resources of the target cell is allocated to the MS, data from the MS to the SRNC still needs to pass through the DRNC. Thus, the SRNC of Sommer can not communicate with the target BS of the target cell directly and the soft handover according to Sommer is still a soft handover between RNCs. In other words, according to the method of Sommer, only the signaling procedure between RNCs while allocating resources of the target BS (Node B) is simplified or eliminated, but the data communication procedure between the SRNC and the target BS (Node B) remains the same as that in the prior art.

In view of the foregoing, Sommer does not anticipate, teach, or suggest the claimed establishing a connection between said SRNC and said target Node B by said SRNC, and initiating a soft handover within RNC of Claim 1.

In addition to the foregoing, Sommer at best discloses that the part of the resources of a BS provided to be controlled by a second RNC is obligated, and that the amount of obligated resources is determined by negotiation between the SRNC of the BS and the second RNC. The second RNC can only control the obligated part of resource, and the usage of the obligated part resources by the SRNC of the BS is prohibited or limited. In the subject application, the resources of a BS (Node B) can be dynamically allocated to adjacent RNCs and there is no upper or lower limit to the amount of the allocated resources if only idle resources are available.

Furthermore, the benefits of the present application and Sommer differ. More specifically, by adopting the method of the present application provides the following advantages:

1) Since much handover between RNCs is changed to handover within a RNC and a SRNC can communicate with the original and target Node B at the same time, handover complexity is greatly reduced and handover reliability, stability and success rate are raised.

2) During soft handover between RNCs, data from a UE to the SRNC traverses a shorter path without passing a DRNC, so the time delay of the macro diversity data is improved, the network performance is optimized, and the processing efficiency is raised. According to Sommer, since a BS can only connect with one RNC, and during

soft handover between RNCs data from the MS to the SRNC still need to pass through the DRNC, Sommer can not provide the above-mentioned advantages.

With respect to claim 5, claim 5 is directed to when a soft handover takes place, the SRNC needs to apply for resources to a specific functional entity, which is located in the target Node B. Sommer, on the other hand, at best discloses that a SCT is used to store the resources allocation information of a cell. In Sommer, when a RNC allocates the obligated part of resource of an adjacent RNC, the RNC first needs to apply for required resources to the SCT. Sommer discloses that the SCT is configured in RNC and the SCT is established by negotiation between RNCs. Thus Sommer does not disclose that the specific functional entity is a logical functional entity within said target Node B as in claim 5.

Similarly, Sommer does not disclose that when a soft handover takes place, the SRNC needs to apply for resources to a specific functional entity, which is located in a network server. Claim 6, on the other hand, recites that the specific functional entity is a logical functional entity in a network server.

In view of the foregoing, Applicant respectfully submits that claims 1 defines over the art cited by the Examiner. Likewise, claims 5-9 define, which depend from claim 1, define over the art cited by the Examiner. Thus, Applicant respectfully request that the Examiner withdraw the rejection over 35 USC 102(b).

REJECTION UNDER 35 U.S.C. § 103

Claims 2-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sommer (WO 00/54531) as applied to claim 1 above, and further in view of well known prior art (MPEP 2144.03). This rejection is respectfully traversed.

Applicant respectfully submits that the arguments made above with respect to Sommer apply equally hereto. Further applicant respectfully submits that the combination of Sommer and well known prior art fail to teach or suggest claims 2-4.

In view of the foregoing, Applicant respectfully submits that claims 2-4 define over the art cited by the Examiner and respectfully request withdrawal of the same.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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